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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,670	03/18/2004	Jianbo Lu	81095822FGT1904	2669
28549	7590	03/20/2006	EXAMINER	
KEVIN G. MIERZWA ARTZ & ARTZ, P.C. 28333 TELEGRAPH ROAD, SUITE 250 SOUTHFIELD, MI 48034			SY, MARIANO ONG	
			ART UNIT	PAPER NUMBER
			3683	

DATE MAILED: 03/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/708,670	Applicant(s) LU ET AL.	
	Examiner Mariano Sy	Art Unit 3683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The response filed on January 5, 2006 has been received.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-6, 8-10, 12, 14-20, 22, 23, 25, 26, 28, 30-32, 34, 35, 38, 39, 41-44, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wessman (US 6,612,394) in view of Fukushima et al. (US 4,903,983).

Re-claims 1, 2, 12, 14, 15, 17, 25, 28, 34, 35, 41, and 47 Wessman disclosed, as shown in fig. 1-4, a system and method of controlling a vehicle having a plurality of

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brakes comprising: means 5, 3a, 3b, 4a, 4b to detect a parking mode (vehicle is stationary or is being turned at a relatively low speed, col. 2, lines 11-15 and lines 51-62); a controller 10 programmed to apply brake-steer to at least a first wheel to reduce a vehicle turning radius, see col. 2, lines 5-20.

However Wessman was silent to disclose means to determine vehicle loading condition and increasing normal load comprises controlling an active suspension on at least one wheel or on at least one rear wheel.

Fukushima et al. teaches applying brake-steer and increasing normal load and controlling an active suspension on at least one wheel or on at least one rear wheel, see abstract and col. 3, lines 19-26.

It would have been obvious to one of ordinary skill in the art to utilize the known brake-steer and increasing normal load comprises controlling an active air suspension on at least one wheel on the vehicle of Wessman, as taught by Fukushima et al., in order to improve the driving stability of the vehicle during turning or cornering.

Re-claims 3 and 16 Wessman disclosed, as shown in fig. 1-4, wherein the at least one wheel comprises a rear inside wheel relative to a turn.

Re-claims 4-6, 18-20, 30-32, 38, 39, and 42-44 Wessman disclosed, as shown in fig. 1-4, wherein means to detect a parking mode comprises a vehicle speed sensor 3a, 3b, 4a, 4b and a steering wheel angle sensor 5.

Re-claims 8-10, 22, 23, and 26 Wessman disclosed, as shown in fig. 1-4, wherein the step of applying brake-steer comprises applying a first brake and a second brake to reduce a vehicle turning radius.

5. Claims 7, 21, 33, 40, 45, 46, and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wessman in view of Fukushima et al. as applied to claims 1, 14, 25, 34, and 41 above, and further in view of Krueger et al. (US 6,481,806).

Re-claims 7, 21, 33, and 45 Wessman as modified was silent to disclose detecting a parking mode in response to a driver-actuated switch.

Krueger et al. teaches the use of a brake pedal switch 82 to sense a brake signal during a brake application.

It would have been obvious to one of ordinary skill in the art to utilize the known driver-actuated switch on the vehicle of Wessman as modified, as taught by Krueger et al., in order to detect a brake application.

6. Claims 11, 24, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wessman in view of Fukushima et al. as applied to claims 1, 14, and 25 above, and further in view of Urvoy (US 5,307,888).

Re-claims 11, 24, and 27 Wessman as modified was silent to disclose and it is inherent that applying brake-steer comprises applying an increased drive torque to a second wheel relative to a first wheel during turning.

Urvoy teaches applying brake-steer comprises applying an increased drive torque to a second wheel relative to a first wheel, see col. 1, lines 16-23.

It would have been obvious to one of ordinary skill in the art to have utilized the known teaching of applying brake-steer comprises applying an increased drive torque to

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a second wheel relative to a first wheel in the system of Wessman as modified, as taught by Urvoy, in order to improve vehicle stability.

7. Claims 13 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wessman in view of Fukushima et al. as applied to claims 1 and 34 above, and further in view of Mine (US 5,515,277

Re-claims 13 and 36 Wessman as modified disclosed increasing the normal load comprises controlling an active suspension but failed to disclose increasing the normal load comprises controlling an air suspension.

Mine teaches an active suspension system using pneumatic suspension.

It would have been obvious to one of ordinary skill in the art to use an air/pneumatic suspension, as taught by Mine, as a matter of design choice from an old and known suspension in order to improve vehicle's stability during turning.

8. Claims 29 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wessman in view of Fukushima et al. as applied to claims 25 and 41 above, and further in view of Nakamura et al. (US 5,408,411).

Re-claims 29 and 48 Wessman as modified was silent to disclose wherein means to determine a loading condition comprises a plurality of wheel speed sensors and a throttle sensor.

Nakamura et al. teaches means to determine a loading condition comprises a plurality of wheel speed sensors and a throttle sensor, see col. 35-62.

It would have been obvious to one of ordinary skill in the art to have utilized the known teaching of means to determine a loading condition comprises a plurality of wheel speed sensors and a throttle sensor in the system of Wessman as modified, as taught by Nakamura et al., in order to improve vehicle's stability during turning.

9. Applicant's arguments filed January 5, 2006 have been fully considered but they are not persuasive.

Examiner maintains the rejection is proper. Applicants argued in the Remarks that Wessman (US 6,612,394) showed no teaching or suggestion for detecting a parking mode and the Applicants have performed a word scan on the document and cannot find the word "park" anywhere in the document. No teaching or suggestion is provided in the Wessman reference for increasing a normal load on a wheel of the vehicle during brake-steer. Examiner disagreed since the word "park or parking" is relatively broad, it can be written or presented in different words or phrase.

Applicant also argued in the Remarks that "The abstract of Fukushima reference describes ---- vehicle at a corner. The Examiner points to Col. 2, lines 5-20, for brake-steering a vehicle. Also, Examiner points to col. 2, lines 11-15, for detecting a parking mode. Applicants have reviewed Col. 2 which refers to EP Application 01/93124". Applicants made a mistake, Examiner is referring to Wessman and not Fukushima. Please refer to last Office Action dated October 6, 2005, par. 4 on pages 2 and 3.

Wessman disclosed means 5, 3a, 3b, 4a, 4b to detect a parking mode (vehicle is stationary or is being turned at a relatively low speed, col. 2, lines 11-15 and lines 51-

62). However Wessman was silent to disclose means to determine vehicle loading condition and increasing normal load comprises controlling an active suspension on at least one wheel or on at least one rear wheel.

However Wessman was silent to disclose means to determine vehicle loading condition and increasing normal load comprises controlling an active suspension on at least one wheel or on at least one rear wheel.

Fukushima et al. (US 4,903,983) teaches applying brake-steer and increasing normal load and controlling an active suspension on at least one wheel or on at least one rear wheel, see abstract and col. 3, lines 19-26.

Since Wessman and Fukushima et al. are both from the same field of endeavor of steering a vehicle during cornering or turning.

It would have been obvious to one of ordinary skill in the art to utilize the known brake-steer and increasing normal load comprises controlling an active air suspension on at least one wheel on the vehicle of Wessman, as taught by Fukushima et al., in order to improve the driving stability of the vehicle during turning or cornering.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mariano Sy whose telephone number is 571-272-7126. The examiner can normally be reached on Mon.-Fri. from 8:30 A.M. to 2:30 P.M.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James McClellan, can be reached on 571-272-6786. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



M. Sy

March 13, 2006



JAMES MCCLELLAN
SUPERVISORY PATENT EXAMINER
3/16/06